

July-09-12 3:00:27 PM

86958

DRAB GREEN Page 1

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Saddle, Aft In 205

Start Date: 7/09/12 **Start Qty:** 12.00

12

Cust Item ID:

Required Date: 8/17/12 **Req'd Qty:** 12.00

12

Customer:

Reference:

Run Start *NR1*

Approvals: Process Plan: MLJ

Date: 12/07/10

Tooling:

Date:

OC:

Date:

SPC (Y/N):

Date:

Stop *NR2*

100	HAAS CNC VERTICAL MACHINING #1	0.00	RF 12-8-17		
100			SL 12-8-20	(12)	
HAAS 1	Memo	0.00			
HAAS CNC vertical machine #1	Program Batch No. <u>167SP</u> Double check by: <u>JP</u> 1-Machine Step				
	No 1 per Folio FA051 and inspect per attached Dimension Sheets 2-Machine				
	Step No 2 per Folio FA051 and inspect per attached Dimension Sheets 3-				
	Machine Step No 3 per Folio FA051 and insp				
110	CONVENTIONAL MILLING MACHINE	0.00	RF 12-8-17		
110			SL 12-8-20		
Mill Conv	Memo	0.00			
Conventional Milling Machine	Machine keyway as per dwg D2573 & D2574				
120	QC2- Inspect parts off machine FAI/FAIB	0.00	RF 12-8-17		
120			SL 12-8-20		
QC	Memo	0.00			
Quality Control					

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 86958

86958

Page 2

July-09-12 3:00:27 PM

Item ID: D2574

Accept

N900040100

Setup Start *NS1*

Revision ID:

Stop *NS2*

Item Name: Saddle, Aft In 205

Start Date: 7/09/12 Start Qty: 12.00

12

Cust Item ID:

Required Date: 8/17/12 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start *NR1*

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

130

QC8- Inspect parts - second check

0.00

130

QC

Memo

0.00

Quality Control

140

Chemical Conversion Coat per QSI005 4.1

0.00

140

HandFinish

Memo

0.00

Hand Finishing

150

White Gloss (Ref: 4.3.5.1) per QSI005 4.3-Alum

0.00

150

Powdercoat

Memo

0.00

Powder Coating

START TIME:

FINISH TIME:

OVEN TEMPERATURE:

M104476

3200F

11:45

DAS
14
2-83
12/08/20

12 0 0

12 0 12-8-20

12x 0 12/08/22

MF 12-08-13

DRAB GREEN.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 86958

86958

Page 3

July-09-12 3:00:27 PM

Item ID: D2574

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Saddle, Aft In 205

Start Date: 7/09/12 Start Qty: 12.00 ***12***

Cust Item ID:

Required Date: 8/17/12 Req'd Qty: 12.00 ***12***

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	QC3- Inspect Part Finish	0.00							
160						12	0		
QC	Memo	0.00							
Quality Control									
170	Identify as per dwg & Stock Location: <u>429</u>	0.00							
170						SP 12			
Packaging	Memo	0.00							
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.00							
Quality Control									

12 0 12/8-22

SP 12 12/08/22

MCJ 12/08/23

MF 12-08-23

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

July-09-12 3:00:27 PM

Page 1

Work Order ID: 86958

Parent Item: D2574

Parent Item Name: Saddle, Aft In 205

Start Date: 7/09/12

Required Date: 8/17/12

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev: I As Per RevE 06-01-27 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-005 Saddle Billet		Manufactured	No			110	Each	41.0000	1	12			

Location	Loc Qty	Loc Code
MAT041	2	
76838	2	
MAT044	39	
79874	19	
81973	4	
85429	16	

~~87265~~

12

24 12-8-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	20958
Description: Saddle, Aft Inboard		Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1	

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				1	2	3	4		
A	0.438	0.443		.443	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.003	8.003	8.002	8.002		
F	0.490	0.510		.503	.502	.501	.499		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.376	.376	.376	.376		
I	0.490	0.510		.502	.501	.500	.501		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.568	.568	.568	.569		
L	1.174	1.184		1.179	1.179	1.179	1.177		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.126	.125	.125	.125		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.251	.251	.251	.251		
S	0.115	0.135		.132	.127	.125	.125		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.248	.241	.240	.240		
W	0.115	0.135		.124	.130	.125	.125		
X	0.307	0.312		.310	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.365	.365	.366	.366		
AA	0.470	0.530		.50	.50	.50	.50		
AB	0.615	0.635		.624	.626	.626	.626		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.250	.251	.250	.250		
AE	1.500	1.520		1.510	1.511	1.512	1.512		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.263	.260	.260	.260		
AH	0.240	0.260		.255	.250	.250	.249		
AI	2.000	2.020		2.002	2.002	2.002	2.002		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject									

Measured by:	JL
Date:	12-08-18

Audited by:	DA5
Date:	12/08/20

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief-Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	86958
Description: Saddle, Aft Inboard	Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				15	16	17	18		
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.510	3.510	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.002	8.001	8.001	8.001		
F	0.490	0.510		.499	.500	.500	.501		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.376	.376	.376	.376		
I	0.490	0.510		.499	.500	.501	.500		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.567	.567	.568	.568		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.124	.124	.125	.125		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.249	.250	.251	.249		
S	0.115	0.135		.125	.125	.126	.124		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.239	.240	.241	.240		
W	0.115	0.135		.124	.125	.125	.124		
X	0.307	0.312		.310	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.362	.361	.361	.362		
AA	0.470	0.530		.50	.50	.50	.50		
AB	0.615	0.635		.606	.625	.605	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.249	.250	.250	.248		
AE	1.500	1.520		1.510	1.511	1.511	1.514		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.249	.250	.251	.249		
AI	2.000	2.020		2.002	2.001	2.001	2.001		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject								DA	

Measured by:	DL
Date:	12-08-19

Audited by:	14
Date:	12/08/20

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	86950
Description: Saddle, Aft Inboard	Part Number:	D2574
Inspection Dwg: D2574 Rev. E		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2574 Rev. E and record below:

Dim	Min	Max	Go/No Go Gauge	Recorded Actual Dimensions				By	Date
				A9	A10	A11	A12		
A	0.438	0.443		.440	.440	.440	.440		
B	1.745	1.755		1.750	1.750	1.750	1.750		
C	3.495	3.505		3.500	3.500	3.500	3.500		
D	1.745	1.755		1.750	1.750	1.750	1.750		
E	7.990	8.010		8.007	8.005	8.002	8.002		
F	0.490	0.510		.504	.502	.501	.501		
G	0.257	0.262		.258	.258	.258	.258		
H	0.375	0.380		.376	.376	.376	.376		
I	0.490	0.510		.500	.501	.501	.503		
J	1.174	1.184		1.179	1.179	1.179	1.179		
K	0.558	0.578		.567	.568	.568	.569		
L	1.174	1.184		1.179	1.179	1.179	1.179		
M	1.365	1.375		1.370	1.370	1.370	1.370		
N	2.495	2.505		2.500	2.500	2.500	2.500		
O	4.119	4.129		4.124	4.124	4.124	4.124		
P	0.115	0.135		.125	.125	.124	.125		
Q	0.115	0.135		.135	.135	.135	.135		
R	0.240	0.260		.251	.250	.250	.250		
S	0.115	0.135		.123	.125	.124	.125		
T	0.178	0.198		.188	.188	.188	.188		
U	3.210	3.250		3.230	3.230	3.230	3.230		
V	0.230	0.250		.238	.239	.239	.239		
W	0.115	0.135		.124	.125	.125	.124		
X	0.307	0.312		.310	.310	.310	.310		
Y	0.760	0.765		.762	.762	.762	.762		
Z	0.352	0.372		.360	.361	.361	.362		
AA	0.470	0.530		.50	.50	.50	.50		
AB	0.615	0.635		.625	.625	.626	.625		
AC	0.053	0.073		.063	.063	.063	.063		
AD	0.240	0.260		.247	.249	.249	.248		
AE	1.500	1.520		1.514	1.514	1.513	1.513		
AF	0.115	0.135		.135	.135	.135	.135		
AG	0.240	0.280		.260	.260	.260	.260		
AH	0.240	0.260		.248	.249	.249	.249		
AI	2.000	2.020		2.004	2.004	2.003	2.003		
AJ	0.023	0.043		.033	.033	.033	.033		
Accept/Reject								DAS	

Measured by:	SL
Date:	12-08-19

Audited by:	14
Date:	12/08/20

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.09.27	Re-format; Added Rev. D	KJ	
C	02.10.11	Re-format; Added DT8682, DT8683, DT8684	KJ	
D	05.05.05	Added dimension AI	KJ/RF	
E	05.12.05	Added dimension AJ	KJ/JLM	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

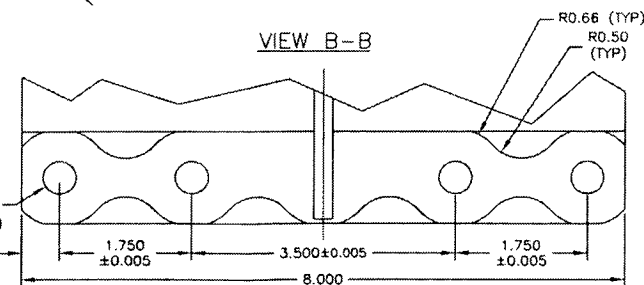
RELEASED
05.12.06

NOTES

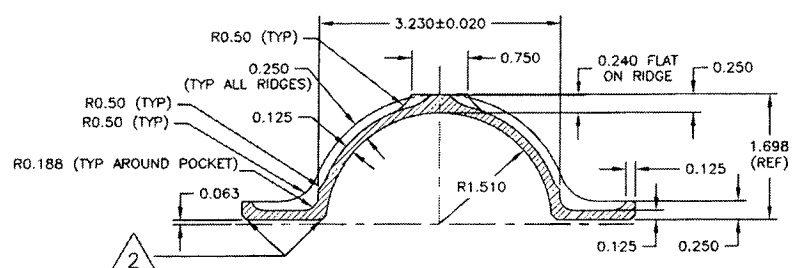
MATERIAL: 7075-T7351 (QQ-A-250/12)
(REF DART SPEC. D6102-003)
FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER
DART QSI 005 4.3
BREAK ALL SHARP EDGES 0.010 TO 0.020
TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

- 1 ENGRAVE PART AND BATCH NUMBER IN THIS AREA TO MAX DEPTH OF 0.010
- 2 CHAMFER 0.063" x 45° AROUND THIS SURFACE (TYPICAL 2 PLACES)
- 3 CHAMFER 0.063 x 45° ALL AROUND
- 4 CHAMFER 0.033 x 45° (SEE DETAIL C)

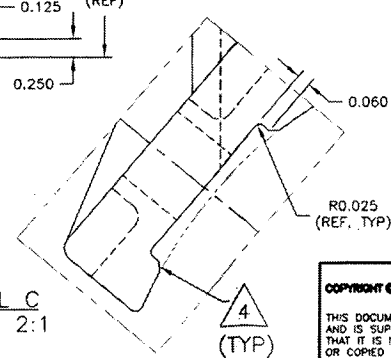
VIEW B-B



SECTION A-A



DETAIL C SCALE 2:1



COPYRIGHT © 2006 BY DART AEROSPACE LTD.
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

E	05.07.13	ADD CHAMFER ON RIDGE NOTE 4
D	02.09.06	ADD RIDGES; TIGHTEN TOLERANCES
C	99.10.22	INCOMP. DEO 9123/9079/9102 ADD DIMENSIONS PER TSR A1177
B	96.12.02	ADD GRAIN DIR., 0.438 WAS 0.425
A	96.09.16	NEW ISSUE
DESIGN	DS	DRAWN BY PH
CHECKED	#	APPROVED #
DATE	05.07.13	TITLE INNER AFT SADDLE
		REV. E SHEET 1 OF 1 SCALE 2:3

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 86958. MJS
12/07/10

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries